Background Information on Pesticides and CZARA, 7/30/14

CZARA and Pesticides Litigation Timeline: 1998 – 2014

1. [***CNPCP***] On January 13, 1998,
    a. EPA and NOAA placed a condition on the state that agricultural water quality management area plans (AWQMAPs) would include management measures that would establish a process for identifying practices that will be used to achieve the pesticide management measure.
    b. EPA and NOAA also placed a condition on the State that within two years the State would identify and begin applying additional management measures where water quality impairments and degradation of beneficial uses attributable to forestry exist despite implementation of the (g) measures. EPA and NOAA identified areas where existing practices under the FPA and FPR should be strengthened to attain water quality standards and fully support beneficial uses, which included "the adequacy of stream buffers for application of certain chemicals."
2. [***Lawsuit]*** On January 30, 2001, Washington Toxics Coalition sued EPA alleging EPA had failed to assess the potential certain pesticides to harm 26 federally listed endangered and threatened Pacific salmon and steelhead.
3. ***[Lawsuit]*** On July 2, 2002, the court ordered EPA to review pesticides containing any of 55 active ingredients, for their potential effects on listed species and to consult as appropriate.
4. ***[CNPCP]*** On January 14, 2004, EPA and NOAA issued an interim decision noting that the State had satisfied the agricultural conditions.
5. ***[Lawsuit]*** On January 22, 2004, the court issued an order granting injunctive relief and ordered interim buffer zones adjacent to salmon-bearing streams, 60 feet for ground application and 300 feet for aerial applications. EPA was required to make effects determinations under ESA for pesticide impacts on fish. Buffers remained in effect until EPA completed consultation, did not determine jeopardy, and NMFS issued a final biological opinion.
6. ***[CNPCP]*** On April 20, 2004, EPA and NOAA determined that Oregon had not fully satisfied the condition for the State to identify and apply additional management measures for forestry. The document alludes to the court order stating that the "concern about the adequacy of stream buffers for application of certain chemicals is being addressed by processes that may result in additional buffer protection requirements beyond those on existing labels in order to protect endangered species."
7. ***[Lawsuit]***From September 19- 2013 – June 5, 2014, the interim court ordered buffers for 8 remaining pesticides where ESA consultation has not been complicated.
8. ***[CNPCP]*** On December 20, 2013, EPA and NOAA's proposed findings were that Oregon did not satisfy the additional management measures for forestry.
9. ***[Lawsuit]*** On June 6, 2014, EPA requested public comment for five insecticides. There are buffers for 12 pesticides in place for aerial and ground application next to fish-bearing streams.

Management Measures for Pesticides

1. Section 6217(g) guidance
2. Erosion and Sediment Control, Nutrient, Pesticide, Grazing and Irrigation Water Management

State Program – Below is some useful information from Dirk, Gabriela, and Linda from the EPA pesticides program perspective with more details on pesticide application requirements. For small, non-fish bearing streams, Oregon also relies on the State's Pesticide Control Law, ODA BMPs, and FIFRA. I focused my questions below on atrazine, 2,4-D, and glyphosate since they came up the most in comments.

i. Current Pesticide Labels. Based on Gabriela's August 16, 2013 write-up, it appears that aerial application of atrazine is not allowed, and the pesticide labels are silent on buffers for aerial application of 2,4-D, though there's general information on how it should be applied. Can you confirm?

The label language examples in the attached document may not be indicative of the application restrictions and warnings on every product label that contains the specific active ingredient. The Reregistration Eligibility Decision (RED) document for a particular active ingredient may specify label requirements above and beyond standard hazard and precaution statements. If the RED does not list specific requirements, you would have to review every product label before making general statements about what a pesticide label will say.

Atrazine products do exist in which aerial applications is an allowed application method per the label instructions. Here is an example. http://pest.ca.uky.edu/PSEP/Private/Drexel%20Atrazine%204L.pdf This example label includes a statement regarding buffers: "This product must not be applied aerially or by ground within 66 feet of the points where field surface water runoff enters perennial or intermittent streams and rivers or within 200 feet around natural or impounded lakes and reservoirs. If this product is applied to highly erodible land, the 66-foot buffer or setback from runoff points must be planted to crop or seeded with grass or other suitable crop."

Some 2,4-D labels might include language that indicate a buffer is required during application. Here is an example: http://provmweb.com/english/Products/Labels/24d%20Ester%20LV700_Label_Eng.pdf In the aerial application use precautions section, it states, "Do not apply to any body of water. Avoid drifting of spray onto any body of water or other non-target areas. Specified buffer zones should be observed." Granted, this language is not specific regarding the buffer that is required.

ii. Current Pesticide Labels. What are the pesticide label requirements for aerial application of glyphosate?

The Label Review Manual Chapter on Environmental Hazards provides general statements for pesticides that may be aerially applied. For aerial forestry applications, the pesticide label will include a statement that allows spraying of the forest canopy, but requires spray valves to be shut off when passing over ponds, streams, etc. that are not under the forest canopy (see pgs. 8-3 and 8-4).

For glyphosate specifically, The Reregistration Eligibility Decision (RED) for Glyphosate doesn't address aerial applications. You can reference the RED Fact Sheet for Glyphosate for an overview of findings from the RED.

Here is an example label that discusses aerial applications of glyphosate. http://www.agrian.com/pdfs/Glyphosate_4_(Epa_120605)_Label.pdf It states, "Avoid direct application

to any body of water." It then goes on to state under the Spray Drift Management Section, "Avoiding spray drift is the responsibility of the applicator. The potential for spray drift is determined by the interaction of many equipment and weather related factors. All applicators and growers must consider all of these factors when making decisions regarding product application." I did not find any specific statements related to buffers around water bodies but buffers around adjacent vegetation are mentioned in the section on Christmas Tree Plantations in Oregon and Washington: "To prevent drift onto nearby desirable crops or vegetation, ensure that adequate buffers are maintained…" then it goes on to address aerial applications to Christmas Tree Plantations, "Do not apply during low level inversion conditions, when winds are gusty or under any other conditions which favor drift. Drift may cause damage to any vegetation contacted to which treatment is not intended. Maintain appropriate buffer zones to prevent injury to adjacent desirable vegetation." Similar language is listed under other crop sections.

iii. Court Orders/BiOps. Do the BiOps/court orders or related litigation outcomes speak to aerial application of herbicides on non-fish bearing streams? Are there court-mandated buffers for aerial application of atrazine, 2,4-D, or glyphosate?

The June 2014 court settlement establishes 60 ft. ground and 300 ft. aerial application buffers for carbaryl, chlorpyrifos, diazinone, malathion and methomyl for risks to endangered salmon/steelhead. The court settlement only addresses these 5 pesticides. As Gabriele points out, there may be other buffers for other pesticides but those buffers would not be for ESA species and would be take some time to evaluate which product have buffers since there are likely more than 20,000 pesticide products registered with EPA.

We don't believe that "non-fish bearing streams" is a term that is used in either the lawsuit or in the Biological Opinions. "Salmon-supporting waters" is the term that is used by the plaintiff. NMFS assesses impacts to "listed species and their designated critical habitats" and "salmon bearing waters" are discussed in the biological opinions. This would be a good question for NOAA/NMFS.

As a result of the Washington Toxics Coalition (WTC) v. EPA lawsuit, the judge imposed an injunctive relief (buffers of 100 yards for aerial applications for certain pesticides) until the National Marine Fisheries Service issued Biological Opinions that addressed listed threatened and endangered Pacific salmonids and their designated critical habitat. See page 12 of the Order at http://watoxics.org/files/order-01-22-04.pdf which lists the conditions which warrant termination of injunctive relief.

Atrazine was listed at the beginning of the lawsuit, but EPA and NMFS agreed that the active ingredient either was not likely to adversely affect or had no effects on listed species and their critical habitats; therefore, Atrazine applications no longer need to abide by court-ordered buffers.

The herbicide 2,4-D was included in the WTC lawsuit and on June 30, 2011, NMFS issued a Biological Opinion for 2,4-D, thus terminating any court-ordered buffers for applications involving 2,4-D. The NMFS Biological Opinion states Reasonable and Prudent Measures for 2,4-D applications. See pages 784-787: http://www.nmfs.noaa.gov/pr/pdfs/consultations/pesticide_opinion4.pdf

Glyphosate was not part of the WTC lawsuit so WTC court-ordered buffers do not apply to glyphosate applications.

iv. (b)(5) deliberative [redacted]

An overview of EPA's ecological (which includes endangered species) and human health risk assessment processes can be found at http://www.epa.gov/pesticides/about/overview_risk_assess.htm#ecological.

For specific pesticide active ingredients:

Atrazine

Chemical Information: http://iaspub.epa.gov/apex/pesticides/f?p=CHEMICALSEARCH:3:0::NO:21,3,31,7,12,25:P3_XCHEMICAL_ID:1273

RED: http://www.epa.gov/opp00001/chem_search/reg_actions/reregistration/red_PC-080803_1-Apr-06.pdf

Updates: http://www.epa.gov/pesticides/reregistration/atrazine/atrazine_update.htm

Cumulative Risk Assessment: http://www.epa.gov/pesticides/cumulative/common_mech_groups.htm#triazine

2,4-D

Chemical Information: http://iaspub.epa.gov/apex/pesticides/f?p=CHEMICALSEARCH:3:0::NO:21,3,31,7,12,25:P3_XCHEMICAL_ID:512

RED: http://www.epa.gov/opp00001/chem_search/reg_actions/reregistration/red_PC-030001_1-Jun-05.pdf

Fact Sheet: http://www.epa.gov/opp00001/chem_search/reg_actions/reregistration/fs_PC-030001_30-Jun-05.pdf

Glyphosate

Chemical Information:
http://iaspub.epa.gov/apex/pesticides/f?p=CHEMICALSEARCH:3:0::NO:1,3,31,7,12,25:P3_XCHEMICAL_ID:2477

RED: http://www.epa.gov/opp00001/chem_search/reg_actions/reregistration/red_PC-417300_1-Sep-93.pdf

Fact Sheet: http://www.epa.gov/opp00001/chem_search/reg_actions/reregistration/fs_PC-417300_1-Sep-93.pdf

v. States Developing Their Own Buffers. (b)(5) deliberative [redacted]

Oregon Department of Agriculture hasn't instituted buffers for pesticide applications that are more restrictive than federal requirements. When Oregon has instituted more restrictive requirements for pesticide applications, they have done so by enacting a full prohibition of certain active ingredients or certain application methods. For example, on June 26, 2014, Oregon enacted an emergency, temporary rule prohibiting the use of any product containing the neonicotinoid insecticides dinotefuran or imidachlorprid on linden trees. This emergency, temporary administrative rule is in effect from June 26, 2014, to December 23, 2014. Please see the following web page for this rule: http://www.oregon.gov/ODA/PEST/docs/pdf/2014_Bee_Dino_Imid_%20Rule.pdf

Oregon Department of Agriculture does inform EPA Region 10 when it is working to institute a more restrictive regulation of a pesticide.